Enhanced Medium-Altitude Reconnaissance and Surveillance System (EMARSS) V3

(version 2.0)

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ICoE - Mil Intelligence School

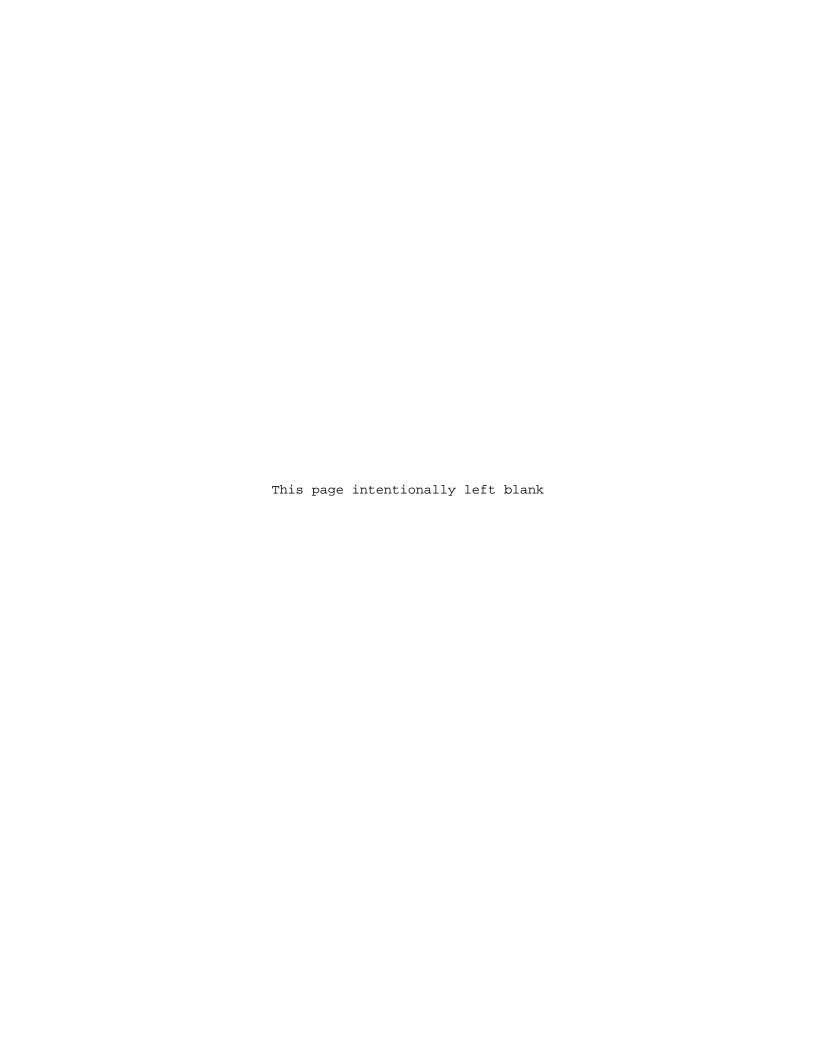


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- A Milestone Annex
- B References
- C Coordination Annex

This System Training Plan (STRAP) is preliminary. Front end analysis (mission, task, job) is ongoing. ICoE - Mil Intelligence School will amend and update this STRAP as details solidify.

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1.0 System Description

Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is a manned multi-intelligence Aerial Intelligence, Surveillance, and Reconnaissance (A-ISR) platform that provides the capability to detect, locate, classify, identify, and track surface targets day or night in nearly all weather conditions with a high degree of timeliness and accuracy. EMARSS consists of a high-definition Electro-Optical/Infrared (EO/IR) sensor with Full Motion Video (FMV), a remotely-operated Communications Intelligence (COMINT) collection suite, an Aerial Precision Geo-location (APG) sensor, and a robust communications suite installed on an MC-12 fixed-wing aircraft. Future growth will introduce Light Detection and Ranging (LIDAR), Wide Area Aerial Surveillance (WAAS), Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI), and Hyperspectral Imagery (HIS) sensors. The aircraft is equipped with line-of-site (LOS) and beyond line-of-site (BLOS) data links, communication suites, and a self protection suite. EMARSS will be assigned to Aerial Exploitation Battalions (AEB) and provide direct support reconnaissance and surveillance to brigade combat teams or other tactical units.

EMARSS will operate as a single platform with two on-board payload operators in support of tactical missions. Mission altitude and flight tracks will optimize collection against targets or areas of interest while avoiding known threats to the platform. Specific flight profiles may be selected to strike a balance among the capabilities of multiple sensors, or to optimize collection from an individual sensor based upon the daily collection tasking. Individual sensors will communicate with the Distributed Common Ground Station-Army (DCGS-A) enterprise and the supported tactical unit via appropriate LOS/BLOS data links and communications equipment. EMARSS will also provide Full-Motion Video (FMV) and other products directly to tactical users via One System Remote Viewing Terminal (OSRVT). Soldiers will use DCGS-A systems and software as the primary exploitation and dissemination capabilities, both on and off the aircraft.

The Army will equip the first unit with EMARSS in fiscal year 15 with the Initial Operational Capability complete no later than one year from the date of the first fielding. PdM Special Equipment Mission Aircraft (SEMA) and PdM MARSS will plan to modify and/or integrate the Quick Reaction Capability (QRC) fleet (VaDER, TACOPS, and Liberty) to meet the EMARSS specifications and then field to the operational force to provide the future growth capabilities. Operational needs and availability dictate the QRC fleet modification schedule.

2.0 Target Audience

The following military occupational specialties (MOS) assigned to EMARSS duty positions require EMARSS training.

- Pilots: Aviation Officers (15) and Fixed Wing Aviators (155)
- On-board GEOINT Payload Operators: Geospatial Intelligence Imagery Analyst (35G)
- On-board SIGINT Payload Operators: Cryptologic Linguist (35P), Signals Intelligence Analyst (35N), and Signals Collector / Analyst (35S)
- Remote COMINT Operators: Cryptologic Linguist (35P), Signals
 Intelligence Analyst (35N), and Signals Collector Analyst (35S)
- Maintainers: Military Intelligence (MI) Systems Maintainer/Integrator (35T) and Intelligence/Electronic Warfare (IEW) Systems Maintenance Technician (353T)
- Mission Managers: Traffic Analysis Technician (352N), Non-Morse Intercept Technician (352S), Imagery Intelligence Technician (350G), and senior (SFC and above) system operators.

Prerequisites for attending the EMARSS pilot qualification training are:

- Be qualified and current as an Army fixed wing aviator
- Possess a Top Secret clearance with access to Sensitive Compartmented Information (TS/SCI) clearance

Prerequisites for attending EMARSS training for on-board payload operators are:

- Be qualified in their respective MOS
- Possess a TS/SCI clearance (SIGINT Payload operators require a Counterintelligence Scope Polygraph)
- Class III flight physical
- Altitude chamber training

Prerequisites for attending EMARSS training for remote operators and mission managers are:

- Be qualified in their respective MOS [except when training is delivered during Advanced Individual Training (AIT)]
- \bullet Possess a TS/SCI clearance with Counterintelligence Scope Polygraph

Prerequisites for attending EMARSS training for maintainers are:

• Be qualified in their respective MOS [except when training is delivered during AIT]

• Possess a TS/SCI clearance (system administrators will require a Counterintelligence Scope Polygraph)

3.0 Assumptions

Manpower:

- EMARSS functional courses will require additional personnel as defined in the Programs of Instruction (POI), Memoranda of Transmittal (MOT), and through the Structure and Manning Decision Review/Training Requirements Analysis Process (SMDR/TRAP).
- United States Army Intelligence Center of Excellence (USAICoE) will resource additional aeromedical flight physicians with support personnel to sustain instructor and student flight readiness requirements.

Additional Skill Identifiers (ASI):

- TRADOC will develop a new ASI to identify EMARSS-qualified aviators.
- TRADOC will develop a new ASI to identify Soldiers qualified as EMARSS GEOINT Payload Operators.
- TRADOC will assign ASI V3 APG to Soldiers qualified as EMARSS SIGINT Payload Operators.

Facilities:

- Certified Sensitive Compartmented Information Facility (SCIF) classrooms will be available for training.
- Hangar space will be available to park and maintain the airframes used for EMARSS training.

Equipment:

- Product Manager (PdM) MARSS and PdM SEMA will coordinate resources for and maintenance of operational equipment required to support EMARSS training.
- Program Executive Office Fixed Wing will coordinate resources for and maintenance of the EMARSS airframe.
- All EMARSS variants (EMARSS-S/V/G/M) will be supported by the EMARSS capabilities training.
- TRADOC will coordinate the resources for all DCGS-A sub-systems and operational equipment (e.g. vehicles, radios) required to support EMARSS institutional training.

4.0 Training Constraints

N/A

5.0 System Training Concept

EMARSS system training will include New Equipment Training (NET), institutional training, and unit sustainment training. PdM MARSS and PdM SEMA will provide NET at each fielding with a TRADOC-approved Training Support Package (TSP) hosted on the TRADOC-approved data repository. Both USAICOE and the United States Army Aviation Center of Excellence (USAACE) must approve the aircrew Programs of Instruction (POI) to ensure they meet regulatory and doctrinal guidance; USAICOE retains full authority for approving the content and design of the manager, maintainer, and remote payload operator TSPs.

Institutional training for EMARSS Soldiers will consist of a separate functional course for each duty position. Aviators who graduate from the Aircraft Qualification Course (AQC) will be awarded a yet to be identified ASI. Onboard SIGINT payload operators will attend the APG course and receive ASI V3 upon graduation. Onboard GEOINT payload operators will attend the USAICOE Aerial GEOINT Payload Operator course and receive a yet to be identified ASI upon graduation. Mission managers will attend the A-ISR Manager's course; USAICOE will not award an ASI for this course.

Unit sustainment training will consist of the commander's Aircrew Training Program and formal On-the-Job Training (OJT) program developed from the TRADOC-approved NET TSP to maintain mission-specific proficiencies.

USAICOE's New Systems Training and Integration Directorate (NSTID) will host distributed Learning (dL) products on appropriately classified networks for self-development training.

The EMARSS Target Signature Arrays (TSA) interface to the Intelligence and Electronic Warfare Tactical Proficiency Trainer (IEWTPT) will provide operators and maintainers with realistic mission training through the simulation of EMARSS capabilities in all training domains. PdM MARSS will provide partial task trainers (PTT) to lessen the impact of aircrew training on mission-configured airframes.

5.1 New Equipment Training Concept (NET)

PdM MARSS and PdM SEMA will develop the NET plan (NETP) and conduct NET concurrently with all EMARSS variations fieldings and upgrades. PdM MARSS and PdM SEMA will resource the NET to include instructors, logistics support, and complete Programs of Instruction (POI) for each role/duty position in TRADOC-approved format. PdM MARSS, PdM SEMA, and TRADOC will ensure NET teams train students on all EMARSS variations critical tasks in a learner-centric, scenario-driven training environment that incorporates simulators, simulations, and operational EMARSS equipment. NSTID will integrate role-specific Doctrine and Tactics Training (DTT) in each NET POI and execute the DTT during each fielding event. The NET TSP and all associated material will serve as the leave behind package for unit sustainment training.

- Aviator (pilot) training will focus on EMARSS Aircrew Training Manual (ATM) tasks. The mission equipment phase will include crew coordination drills with onboard payload operators. PdM SEMA and the fielded unit must coordinate the schedule for aviator training to ensure a full complement of aircrew is available to employ the system.
- Onboard payload operator training for both SIGINT and GEOINT positions will include aircrew tasks, MOS-specific payload operations, reporting procedures, and tactical reconnaissance tasks. Operators will receive classroom, hands-on, and in-flight instruction using simulators, simulations, and actual EMARSS equipment.
- Maintainers will receive classroom and hands-on training on system integration, equipment maintenance, fault diagnostics, troubleshooting, and repair tasks.
- Remote payload operators will train on the critical tasks relevant to operating the COMINT payloads and coordinating with the aircrew during mission.
- Mission managers selected by the unit will receive training in mission planning, system configuration, sensor management, communications links, tasking, and reporting.

5.2 Displaced Equipment Training (DET)

If required, PdM MARSS and PdM SEMA will execute DET in accordance with the NET plan.

5.3 Doctrine and Tactics Training (DTT)

NSTID will develop and execute DTT that integrates EMARSS capabilities, organizational impacts, and current TTPs into the Intelligence Warfighting Function at the fielded AEB. NSTID will maintain and update the DTT in the leave behind TSP in an appropriately classified repository for Army wide access. NSTID and USAACE will review the DTT when system or doctrine modifications are made and update the TSP as necessary. NSTID will disseminate all TSP modifications to fielded units and update all EMARSS data repositories. NSTID will coordinate with USAACE to ensure DTT meets aviation regulatory requirements throughout the full system lifecycle.

5.4 Training Test Support Package (TTSP)

NSTID will develop, validate, and approve the TTSP in conjunction with PdM MARSS, PdM SEMA, and TRADOC Capability Manager Intelligence Sensors (TCM IS). The TTSP will describe the methods, procedures, and resources required to evaluate and certify individual and collective pretest training. The TTSP will include the training for system operation, doctrine, tactics, and maintenance. NSTID will provide the initial TTSP to the Army operational tester 9 months (270 days) before test; the final TTSP will be provided 60 days before test player training.

The initial TTSP will include:

- Approved STRAP
- Test Training Certification Plan (TTCP)
- Training data requirements (instructional material to be revised before beginning training)
- Test resource support (manpower, etc.)

The final TTSP will consist of:

- Training schedule
- POI for each affected MOS/SSI/AOC (officer, warrant officer, and enlisted)
- List of training devices and embedded training components
- Target audience description
- Draft Soldiers' Training Publications (STP) consistent with analysis data
- Lesson plans
- Critical task list
- Aircrew Training Manual (ATM)
- Flight Training Guide (FTG)

6.0 Institutional Training Domain

USAICOE will analyze EMARSS capabilities, concepts, and operations and incorporate critical skill sets into appropriate AIT, professional military education, or functional courses.

6.1 Institutional Training Concept and Strategy

USAICOE will train Soldiers on EMARSS operational concepts in officer and non-commissioned officer education system courses, AIT, and functional courses according to AOC/MOS and role/duty position. Aircrew members will attend the role-appropriate functional course held by the SEMA Committee at Libby Army Airfield, Ft. Huachuca, Arizona. Managers will attend the A-ISR Manager's course when funded.

EMARSS aviators will attend the A-ISR Aircraft Qualification Course (AQC). The EMARSS AQC will train officers and warrant officers in EMARSS flight characteristics, mission planning, and mission operations through a combination of instructional methods including conference, practical exercises, and in-flight instruction. Students will train on EMARSS or EMARSS-representative aircraft and an EMARSS Cockpit Procedural Trainer (CPT) that emulates the EMARSS cockpit and simulates the flight characteristics of the EMARSS aircraft. Graduates of the EMARSS AQC will receive an ASI yet to be determined.

Onboard GEOINT payload operators will attend the A-ISR GEOINT Payload Operator (AGPO) course at USAICOE. The AGPO course will train Soldiers on common GEOINT payload tasks and operation, Aircrew Coordination Training - Enhanced (ACT-E), and the reconnaissance and aerial observation tasks required to operate EMARSS. Students will train in flight on a mission-configured EMARSS or EMARSS-representative aircraft and on the ground using an EMARSS PTT that emulates the GEOINT crew position and simulates GEOINT payload operations (GEOINT Operator Procedural Trainer (OPT) and Ground Procedural Trainer (GPT)). Graduates of the AGPO course will receive a modified ASI 1A.

Onboard SIGINT payload operators will attend the APG course at Fort Hood, TX. In FY16 the APG course will transition to the A-ISR Precision Guidance Operator (APGO) course at USAICOE. The APGO course will train Soldiers on common Aerial Precision Geo-location payloads, Aircrew Coordination Training - Enhanced (ACT-E), and the reconnaissance and aerial electronic observation tasks required to operate EMARSS SIGINT payloads. Students will train in flight on a mission-configured EMARSS or EMARSS-representative aircraft and on the ground using an EMARSS PTT that emulates the SIGINT crew position and simulates SIGINT payload operations (SIGINT operator procedural trainer). Graduates of the APGO course will receive ASI V3 - APG.

EMARSS mission managers will attend the A-ISR Manager's course at USAICoE at a future date. The A-ISR Manager course will train Soldiers in the

skills required to coordinate airspace, dynamically re-task aerial assets, and manage direct support reconnaissance and surveillance missions. Graduates of the A-ISR Manager's course will not receive an ASI.

USAICOE will incorporate an overview of EMARSS Concepts of Operations (CONOPS) and characteristics into appropriate intelligence center officer, warrant officer, and senior NCO professional development courses using current doctrine and lessons learned. NSTID will develop leader training from the NET TSP and host training materials on the Intelligence Knowledge Network (IKN) at the appropriately classified level for Army-wide access.

6.1.1 Product Lines

EMARSS institutional product lines will include the training equipment, courseware, training manuals, TSPs, training facilities, and land necessary to train Soldiers on EMARSS capabilities. EMARSS institutional training will leverage other training capabilities where possible to realize efficiencies for the Army.

6.1.1.1 Training Information Infrastructure

Institutional EMARSS Training Information Infrastructure (TII) will consist of a DCGS-A constructive simulation architecture, the TRADOC-approved data repository, the Army Training Requirements and Resource System (ATRSS), and the necessary hardware and software to conduct training. EMARSS TII will conform to both joint and Army architectures and standards (i.e. CTIA, ATIA-M, Live Virtual Constructive-Integrated Architecture (LVC-IA)) to enable the development, storage, retrieval, delivery, and management of Training Support System (TSS) products and information.

6.1.1.1.1 Hardware, Software, and Communications Systems

PdM MARSS and PdM SEMA will resource and coordinate for the availability of all system hardware and software supporting EMARSS institutional training. TRADOC will coordinate the availability of any additional communications systems associated with EMARSS. Systems and sub-systems will include but not be limited to:

- DCGS-A Multi-function Workstations (MFWS)
- Mission-configured EMARSS aircraft
- EMARSS Simulation suite (to include the EMARSS Target Signature Array)
- Cockpit Procedural Trainer (CPT)
- EMARSS onboard Operator Procedural Trainer (OPT)
- EMARSS Operator Ground Procedural Trainer (GPT)
- Liberty Operator Ground Procedural Trainer (GPT)
- One System Remote Video Terminal (OSRVT)
- Tactical Common Data Link (TCDL)
- EMARSS Maintenance Vehicle (EMV)
- EMARSS Payload Interface Software
- Non-classified Internet Protocol Router Network (NIPRNET)
- Secret Internet Protocol Router Network (SIPRNET)
- National Security Agency (NSA) Net
- Joint Worldwide Intelligence Communications System (JWICS)
- COMSEC keys and keying material for all subsystems
- DCGS-A server architecture
- Single Channel Ground and Airborne Radio System (SINCGARS)

6.1.1.1.2 Storage, Retrieval, and Delivery

The Army will maintain EMARSS training information at one or more of the following:

- TRADOC data repositories
- Central Army Registry (CAR)
- Army Training Network (ATN)
- Intelligence Knowledge Network (IKN)
- IKN-S (Secret)
- Army Knowledge Online (AKO)
- AKO-S (Secret)
- Center for Army Lessons Learned (CALL) Repository
- Standard Army After Action Review System (STAARS)
- Army Learning Management System (ALMS)

6.1.1.1.3 Management Capabilities

USAICOE will manage EMARSS institutional TII using the Digital Training Management System (DTMS), Army Training Requirements and Resource System (ATRRS), and TRADOC-approved data repositories.

6.1.1.1.4 Other Enabling Capabilities

N/A

6.1.1.2 Training Products

EMARSS institutional training products will include courses, courseware, and training publications. ICoE will incorporate EMARSS course materials into appropriate functional courses and coordinate training material updates when PdM MARSS updates EMARSS sub-systems and payloads.

6.1.1.2.1 Courseware

EMARSS courseware for institutional training will consist of lesson plans and interactive courseware. EMARSS lesson plans will include instructional methodology, training content, and digital multimedia presentations using the Army Learning Model. EMARSS PTTs will present interactive courseware to train students on the Tactics, Techniques, and Procedures (TTP) required to employ and operate EMARSS during decisive actions.

6.1.1.2.2 Courses

USAICOE will train role-specific EMARSS critical tasks in four functional courses depending on future funding of the Mission Manager course. An EMARSS capability brief will be included in all Military Intelligence (MI) branch Professional Military Education (PME). Detailed descriptions and the full scope of the courses listed below are available through the Army Training Requirements and Resources System (ATRRS).

Functional courses:

- Special Electronic Mission Aircraft (SEMA) AQC Aviation Officers (AOC 15) and Fixed-wing Aviation Warrant Officers (155)
- APGO Course on-board SIGINT payload operators (35N, 35P, and 35S)(FY16)
- AGPO Course on-board GEOINT payload operators (35G)
- A-ISR Managers Course EMARSS Mission Managers (35 series Sergeant First Class and above, including Warrant Officers 352N, 350G, and 352S)(projected)

PME courses:

- Officer Education System (OES) courses: Officers attending MI Basic Officer Leaders Course (BOLC) and MI Captains Career Course (MICCC) will receive training on the capabilities and employment of EMARSS during the IEW Operations portion of the course.
- Warrant Officer Education System (WOES) courses: MI Warrant Officers will receive training on the capabilities and employment of EMARSS during the common core portion of Warrant Officer Basic Course (WOBC) and during Warrant Officer Advance Course (WOAC).
- Noncommissioned Officer Education System (NCOES) courses: MI Senior Leaders Course (SLC) and Advanced Leaders Courses (ALC) will include training on the capabilities and employment of EMARSS.

6.1.1.2.3 Training Publications

PdM MARSS and PM Fixed Wing will develop an ATM, FTG, Interactive Electronic Technical Manual (IETM), System User's Manual (SUM), and Software User's Guide (SUG) for EMARSS. TRADOC will incorporate PdM-provided materials into the BCT and AEB Combined Arms Training Strategies, Soldier Training Publications (STP) for affected MOSs, Army Doctrinal Publications (ADP), and doctrinal Tactics, Techniques, and Procedures (TTP) publications.

6.1.1.2.4 Training Support Package (TSP)

TRADOC will tailor each TSP to train Soldiers according to MOS, role/duty position, training location, and training equipment. TRADOC will base all institutional TSPs on the training products and materials from the PM-provided NET TSP.

PdM MARSS and PdM SEMA will update the NET TSP with new or improved training products or materials. TRADOC will update institutional TSPs to reflect changes in system capabilities or TTPs. PdM MARSS, PdM SEMA, and TRADOC will store all TSP data and information in distributed knowledge repositories supported by the Army Knowledge Environment (AKE) for retrieval via DCGS-A reach capabilities. PdM MARSS, PdM SEMA, and TRADOC will develop all TSPs in compliance with Army Enterprise Architecture (AEA) under the Joint Technical Architecture-Army (JTA-A). Training developers will implement Army Training Information Architecture (ATIA), Common Training Instrumentation Architecture (CTIA), and accepted DoD standards (i.e. Army Distributive Learning [ADL], Sharable Content Object Reference Model (SCORM) in the design and development of embedded and distributive learning products.

PdM MARSS, PdM SEMA, and TRADOC will cooperate to develop and maintain a robust set of institutional TSPs that include:

- Complete programs of instruction that include EMARSS critical tasks
- System software and hardware IETMs
- Software User Manuals
- Realistic training data and information supporting practical exercises; training vignettes with increasingly challenging enemy and environmental complexities allowing Soldiers to train under realistic conditions
- Distributed and Computer Based Training (CBT) modules supporting Interactive Multimedia Instruction (IMI) for all system user interfaces both operator and maintainer as applicable, at the appropriate IMI level as described in TP 350-70-12, The Army Distributed Learning (DL) Guide

6.1.1.3 TADSS

EMARSS institutional training relies on Virtual and Constructive training simulations to reduce the risk and cost of training Soldiers to operate and maintain EMARSS. PdM MARSS and PdM SEMA will provide the resources to develop EMARSS TADSS according to the standards defined in TRADOC Regulation 350-70, TRADOC Pamphlet 350-70-2 and TRADOC Pamphlet 350-37 Objective Force Embedded Training (OFET) Users E-functional Description.

USAICOE will use the EMARSS Target Signature Array (TSA) as the primary TADSS to enable system training through the Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT) training capability described in the IEWTPT Capability Production Document. The EMARSS TSA will provide modular payload/sensor interfaces to EMARSS operational software applications to present a virtual collection environment for practical exercises during training. The TSA will support role-specific institutional training in a collaborative environment and individual and collective operational training where feasible.

6.1.1.3.1 Training Aids

PdM MARSS and PdM SEMA will resource the development of digital training aids for EMARSS institutional training based on guidance from USAICOE. At a minimum, training aids will include an ATM, IETMs, SUMs, student handouts, job aids, role/position checklists, and an aircraft systems interactive multimedia instruction (IMI) product for use in the AQC. Both USAICOE and USAACE must approve training aids for aircrew roles.

6.1.1.3.2 Training Devices

USAICOE will use the suite of PTTs and the EMARSS TSA to provide a training simulations capability that replicates the aspects of EMARSS selected by the training development team to train Soldiers on role-specific system critical tasks and target systems to augment flight training missions.

PdM MARSS and PdM SEMA will resource EMARSS PTTs that consist of non-motion Cockpit Procedural Trainers (CPT), onboard payload Operator Procedural Trainers (OPT), maintainer mock-ups, and TSAs that emulate the look and feel of all mission equipment trained in the institution. The IEWTPT Technical Control Cell (TCC) will support EMARSS training by providing an overarching simulated Decisive Action Threat Environment (DATE) or virtual Operational Environment battle-space to augment the TSA signals and data presented to the EMARSS payload control software.

Live target systems and environments at USAICoE will support institutional training on select GEOINT and SIGINT capabilities in a realistic exercise format during live flight training for pilots and onboard payload operators.

6.1.1.3.3 Simulators

PEO Simulations, Training, and Instrumentation (STRI) and PdM SEMA will provide a CPT with a non-motion EMARSS flight model to simulate routine and emergency procedures during flight for the institutional EMARSS AQC. The CPT will consist of a virtual and constructive cockpit with displays and controls in an EMARSS-representative configuration and significantly reduce both risk and cost of the EMARSS AQC.

PdM MARSS will provide a virtual and constructive simulator representative of each onboard workstation. The onboard GEOINT payload operator PTT will include both a flight model controlled from the instructor workstation and a method of receiving flight position data from the EMARSS CPT. The GEOINT PTT will include all EMARSS mission interface software and virtual or tactile representations of critical hardware functions on the GEOINT workstation. The GEOINT PTT will also interoperate with IEWTPT through the EMARSS TSA GEOINT module to stimulate the virtual environment presented to the on-board mission software.

The onboard SIGINT payload operator PTT will include all EMARSS mission interface software and virtual or tactile representations of critical hardware functions on the SIGINT workstation. The SIGINT PTT will interoperate with IEWTPT through the relevant EMARSS SIGINT TSAs required to stimulate the virtual electronic environment presented to the on-board mission interface software. The SIGINT and GEOINT PTTs will reference the same constructive simulation through the IEWTPT TCC/TSA to train Soldiers on crew coordination tasks and onboard cross-cueing.

PdM MARSS will also provide a modular EMARSS TSA and mission interface software to simulate remotely-operated payloads. TRADOC will incorporate the EMARSS TSA into institutional training at the appropriate AIT or functional course. The modular EMARSS TSA should consist of a sub-TSA for each payload to stimulate the appropriate mission interface software at disparate training locations.

6.1.1.3.4 Simulations

EMARSS institutional training will incorporate Live, Virtual, and Constructive (LVC) simulations to reduce the risks and costs associated with training on live aviation platforms. EMARSS simulations will include non-motion flight simulation, three dimensional virtual environments, and virtual electronic battlespace that interface with the JLCCTC and IEWTPT for threat modeling. These simulations will provide realistic vignettes for use in AIT and functional courses in practical exercises and Situational Training Exercises (STX).

6.1.1.3.5 Instrumentation

USAICOE, PdM SEMA, and PdM MARSS will assess the full scope of training instrumentation at a later date; at a minimum, instrumentation will provide TRADOC with the ability to evaluate student performance and monitor exercise activities. The onboard payload operator courses will require range instrumentation that digitally reports target location and characteristics and embedded instrumentation to record student activities during live mission training. USAICOE, PdM SEMA, and PdM MARSS will coordinate with PEO STRI to include the Live Tactical Engagement System (Live-TES) as part of the institutional training.

6.1.1.4 Training Facilities and Land

EMARSS institutional training will use existing classrooms and will require prescribed airspace and target emitter ranges during live mission training flights. USAICOE will provide classroom space based on student throughput and classification requirements. The SEMA course will teach the EMARSS AQC in existing hangar, ramp, and classroom space at Libby Army Airfield, AZ. EMARSS onboard SIGINT operator tasks will require classroom space in a certified Sensitive Compartmentalized Information Facility and a robust target emitter range for mission training flights. Onboard GEOINT operator tasks will require classroom space and a maneuver training area with airspace for mission training flights. Additional resources include facilities for billeting, frequency allocation requests, and maintenance support systems.

6.1.1.4.1 Ranges

USAICOE and PdM MARSS will analyze existing ranges against the onboard payload operator training requirements and update, upgrade, or improve ranges as necessary to support institutional EMARSS training exercises. Range requirements will include training airspace, SIGINT gunnery ranges, and GEOINT gunnery ranges for mission training flights.

6.1.1.4.2 Maneuver Training Areas (MTA)

USAICOE will conduct a study to identify MTA requirements for air and ground operations that support institutional EMARSS training. MTA requirements will include electronic battlespace, airspace, and light force training areas for mission training flights.

6.1.1.4.3 Classrooms

EMARSS institutional training will require classrooms large enough to support the throughput of each A-ISR functional course. All classrooms will be standard TRADOC classrooms with the addition of DCGS-A workstations with EMARSS software and applications networked at the appropriately classified level (NIPR, SIPR, NSA Net, and/or JWICS).

The EMARSS AQC will use existing SEMA classrooms, hangar areas, ramp space, and EMARSS aircraft at Libby Army Airfield, AZ. Onboard SIGINT payload operators will train in the A-ISR Precision Guidance Operator course in existing SCIF classrooms, the EMARSS simulator classroom, airfield areas, and EMARSS aircraft as required. Onboard GEOINT payload operators will train in the A-ISR GEOINT Payload Operator course in existing classroom space, the EMARSS simulator classroom, airfield areas, and EMARSS aircraft as required. EMARSS managers will train in the A-ISR Manager's course in existing classroom space.

6.1.1.4.4 CTCs

N/A

6.1.1.4.5 Logistics Support Areas

The majority of EMARSS training equipment and systems will be stored, staged, and maintained at Libby Army Airfield, Fort Huachuca, AZ. USAICOE will provide additional storage facilities for SIGINT equipment at the TS/SCI level as necessary. EMARSS training aircraft will supplant existing RC-12K and RC-12N aircraft as the Guardrail Common Sensor fleet is modernized, and re-purpose Guardrail Common Sensor logistics support areas. Any additional aircraft will require expanded parking facilities and maintenance areas.

6.1.1.4.6 Mission Training Complex (MTC)

The USAICOE Intelligence Combat Training Center (ICTC) provides a virtual training center through constructive simulations, select digital intelligence systems, and a white cell.

White cell members will attend appropriate portions of the A-ISR functional courses as necessary after PdM MARSS develops and fields the simulation capability to the institution.

6.1.1.5 Training Services

USAICOE will use existing organic support services to prepare, replicate, distribute, and sustain EMARSS institutional training.

6.1.1.5.1 Management Support Services

Existing USAICOE management support services will support EMARSS institutional training. ICOE Chief Information Officer / G6 (CIO/G6) will provide information management services to support network integration and maintenance of information systems used in EMARSS courses. USAICOE will coordinate for the resources and services necessary to sustain EMARSS training equipment and devices.

6.1.1.5.2 Acquisition Support Services

USAICOE will coordinate the acquisition support services required for:

- Simulator maintenance
- Aircraft maintenance and fuel
- Airfield facilities maintenance and upgrades
- Operational software maintenance

6.1.1.5.3 General Support Services

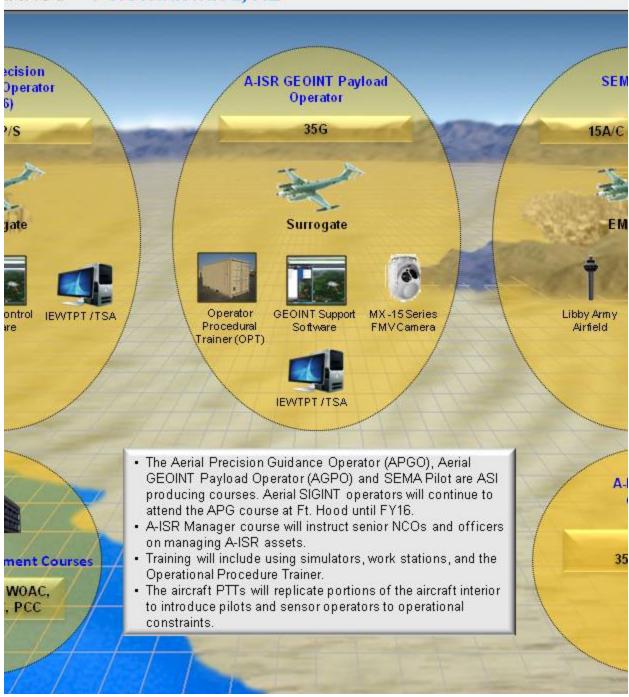
USAICOE, PEO STRI and Installation Management Command will coordinate to provide the general support services necessary for distribution and replication services, facility support, training devices, airfield maintenance, hangars, and ramp space upgrades that will support EMARSS training in the institution.

6.1.2 Architectures and Standards Component

6.1.2.1 Operational View (OV)

USAICOE functional courses will train Soldiers on EMARSS operations using simulators, simulations, and live mission flights. Training will include crew coordination exercises using simulators and EMARSS equipment in an integrated training approach which exercises all system critical tasks. Courses will use robust, high-fidelity constructive simulations integrated with operational system software to simulate a virtual maneuver battle-space. The aircraft PTTs will replicate portions of the aircraft interior to introduce pilots and sensor operators to operational constraints. Classrooms will incorporate virtual payload control operations using system-specific DCGS-A software on commercial white boxes with an instructor "white cell" to manage the training simulations. Training will leverage existing facilities and capabilities from ICTC and SEMA Pilot training, and build on skills learned in MOS-producing courses.

IARSS - Fort Huachuca, AZ



Institutional OV

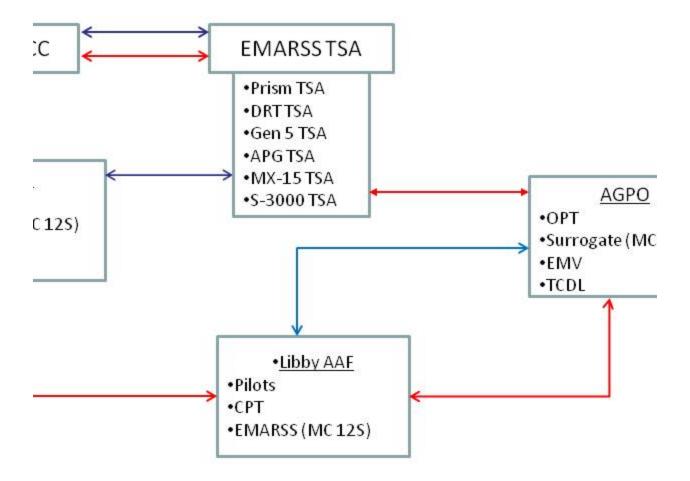
6.1.2.2 Systems View (SV)

Institutional EMARSS training systems and connections will consist of:

- EMARSS
- EMARSS Maintenance Vehicle (EMV)
- EMARSS TSA
- EMARSS MX-15 TSA
- APG TSA
- EMARSS DRT TSA
- EMARSS Prism TSA
- EMARSS Gen5 TSA
- EMARSS S-3000 TSA
- IEWTPT
- EMARSS CPT
- EMARSS OPT
- EMARSS GPT
- Liberty GPT
- DCGS-A
- TCDL
- NSANet
- JWICS
- SIPRNet
- NIPRNet

USAICOE will manage simulations and class content from an ICOE simulations enclave. Networked simulations and simulators will provide communications, data, and simulation scenarios from ICTC to the training workstations and PTTs. ICTC will provide white cell and simulations management support.

ARSS - Training SV-1



Accomplishing tomorrows training requirements today.

6.1.2.3 Technical View (TV)

N/A

6.1.3 Management, Evaluation, and Resource (MER) Processes Component

6.1.3.1 Management

USAICOE will use established and approved TRADOC management processes to manage the training curricula, training facilities, and associated training devices with the support of PdM MARSS, PdM SEMA, and PEO STRI.

6.1.3.1.1 Strategic Planning

USAICOE will determine the EMARSS institutional training strategy to ensure the total training package meets the requirements set forth in the JDSAISR Initial Capabilities Document. USAICOE will design the institutional strategy in accordance with Army policy and strategic visions included in the following documents:

- Intelligence 2020 Strategic plan
- TP 525-8-2 w/ Change 1 (C1) The United States Army Learning Model (6 June 2011)
- The United States Army Operating Concept 2016-2028 (19 August 2010)
- TRADOC Campaign Plan
- TRADOC Commander's training guidance
- USAICoE Commander's training guidance

6.1.3.1.2 Concept Development and Experimentation (CD&E)

N/A

6.1.3.1.3 Research and Studies

- Aerial Reconnaissance and Surveillance Mix Study Analysis Report TRAC-F-TR-13-021 approved 10 June 2014
- Task Force Observe, Detect, Identify, Neutralize Training Needs Analysis approved January 2011
- Task Force Observe, Detect, Identify, Neutralize Job Analysis approved January 2011
- A-ISR TNA September 2009
- Mission Area Analysis (MAA) February 2008
- A-ISR Training Study December 2007
- Training Needs Analysis for an A-ISR training center approved April 2007
- AEB DOTMLPF evaluation January 2007
- ACS TDFA completed September 2005

6.1.3.1.4 Policy and Guidance

The following Army Regulations (AR) and TRADOC Regulation (TR) describe the policies regulating the implementation of the TSS for EMARSS:

- AR 350-1 Army Training and Leader Development (18 December 2009)
- AR 350-38 Training Device Policies and Management (15 October 1993)
- TR 350-70 Army Learning Policy and Systems (6 December 2011)
- TP 525-8-2 with C1 The United States Army Learning Model (6 June 2011)
- TP 525-3-1 The United States Army Operating Concept 2016-2028 (19 Aug 2010)
- TRADOC Commander's training guidance
- USAICoE Commander's training guidance

6.1.3.1.5 Requirements Generation

- EMARSS Milestone B Acquisition Decision Memorandum (15 November 2010)
- JDSAISR ICD (10 September 2010)
- EMARSS Directed Requirement (October 2009)
- ACS CDD (9 September 2009)
- EMARSS CPD (14 July 2014)

6.1.3.1.6 Synchronization

USAICOE will synchronize EMARSS training development requirements with DCGS-A, USAACE, and other Centers of Excellence training efforts. USAICOE will incorporate EMARSS TTPs and mission profiles into the A-ISR training strategy to maximize training opportunities and leverage existing initiatives.

6.1.3.1.7 Joint Training Support

USAICOE will assess for any joint training requirements upon receipt of pending Department of Defense decisions.

6.1.3.2 Evaluation

The USAICOE Quality Assurance Office (QAO) provides oversight on all institutional training curriculums by evaluating classroom instruction and all associated training documentation and courseware. The Aviation Resource Management System (ARMS) and the Department of Evaluation and Standards, Fort Rucker, Alabama will concurrently evaluate and provide oversight of all rated and non-rated aviation crew training curriculums.

6.1.3.2.1 Quality Assurance (QA)

The USAICOE Quality Assurance Office (QAO) provides oversight on institutional training curriculums by evaluating classroom instruction and associated training documentation and courseware.

6.1.3.2.2 Assessments

The USAICOE QAO performs assessments of all institutional courses by individual surveys, special surveys and classroom monitoring. USAICOE survey results are provided to the Deputy Commander of Training and all relevant command sections related to a given survey.

6.1.3.2.3 Customer Feedback

N/A

6.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

USAICOE will use lessons learned and AAR data to support efficient and effective EMARSS institutional training by identifying and incorporating relevant TTPs from the operational environment. Data is available from:

- USAICOE lessons learned team and the Center for Army Lessons Learned (CALL) collect and analyze data from current and historic Army operations and training events.
- Commanders can use AARs conducted after training events and deployments to improve training at the institution.
- Commanders can use IEWTPT's AAR capability to assess the effectiveness of the training.

6.1.3.3 Resource

Item Resourced	Prior	Yrs or \$K				Yrs or	FY20 Yrs or \$K
<u>Manpower -</u> <u>TD</u>							
Contractor		1.0 MY	1.0 MY	1.0 MY	1.0 MY	1.0 MY	1.0 MY
Civilian		7.0 MY	7.0 MY	7.0 MY	7.0 MY	9.0 MY	9.0 MY
Enlisted		9.0 MY	9.0 MY	9.0 MY	9.0 MY	10.0 MY	10.0 MY
Warrant		2.0 MY	2.0 MY	2.0 MY	2.0 MY	2.0 MY	2.0 MY
Officer		1.2 MY	2.2 MY	2.2 MY	2.2 MY	2.2 MY	2.2 MY
Contract/Spt		\$165K	\$173K	\$181K	\$189K	\$197K	\$200K
Civ Pay							

Trvl/Per Diem	\$41.7K	\$43K	\$44.4K	\$45.6K	46.9K	\$48.3K
Other						

Rationale:

Fielding 4 EMD in FY15, 11 in FY16, and 9 in FY 17 for a maximum fleet of 24. Student throughput in FY15 is 18 pilots, 9 GEOINT operators, 9 COMINT/APG operators, 6 A-ISR Managers once funded. Student throughput in FY 16 is 24, 12, 12, and 9. Student throughput in FY17 is 29, 15, 15, and 12. Student throughput in FY 18 is 35, 18, 18, and 12. In FY19, student throughput will drop to 22, 11, 11, and 12 to sustain the EMARSS fleet. ICoE requires instructors and training developers to implement and maintain the course documentation, programs of instruction, and other outputs of the SAT process. Personnel mix requires further analysis to determine the most effective division of work between Soldiers, Civilians, and Contractors. Travel/Per Diem represents cost to attend training and reviews; and for four instructor/key personnel to evaluate training prior to operational testing. TDY costs for required reviews and meetings based on four 5-day meetings per year and four personnel spending 4 weeks at the contractor location for training development purposes.

Item	FY15	FY16	FY17	FY18	FY19	FY20	FY21	

Resourced	Yrs or \$K	Yrs or \$K	Yrs or \$K	Yrs or \$K	Yrs or \$K	Yrs or	Yrs or
-	ļ	ļ					ļ
Training Products							
Training Pubs	\$75K	\$30K	\$3.5K	\$33.1K	\$34.7K	\$35.7K	
TSP	\$315K	\$165K	\$174K	\$182K	\$189K	\$194K	
IMI		\$82.5K	\$31.5K	\$33.1K	\$34.7K	\$35.7K	
STP	\$200K	\$200K	\$200K	\$200K	\$200K	\$200K	
IETM	\$40K	\$40K	\$45K	\$50K	\$50K	\$50K	
CATS							
Printing	\$12K	\$12.7K	\$13.2K	\$13.7K	\$13.7K	\$14.8K	
Distribution							
Other							

1	I			1

Rationale: Cost to develop, revise, maintain, and distribute Training Products. This includes cost to develop the TSP used for NET, institutional, operational, and self-development domains.

Item Resourced	Prior	Yrs or \$K		FY17 Yrs or \$K	Yrs or \$K	Yrs or	FY20 Yrs or \$K
TADSS							
EMARSS Aircraft		4x AC					
Aircraft O&M		\$XXX	\$XXX	\$XXX	\$XXX	\$XXX	\$XXX
Aircraft PME O&M		\$2.7M	\$2.7M	\$2.7M	\$2.7M	\$2.7M	\$2.7M
EMV		1x EMV					
		\$60K	\$60K	\$60K	\$60K	\$60K	\$60K

EMV O&M							
OPT O&M		\$675K	\$675K	\$675K	\$675K	\$675K	\$675K
Operator Simulators (GPT		\$924K	\$9K	\$9K	\$9K	\$9K	\$9K
CPT	\$601K	\$1098K	\$70K	\$73.5K	\$77.1K	\$81K	\$84K
Software		\$250K	\$250K	\$250K	\$267K	\$275K	\$275K
Licenses		\$120K	\$126K	\$133K	\$140K	\$147K	\$154K
TMDE			\$60K	\$63K	\$67K	\$72K	\$76K
Printing			\$2K	\$2.2K	\$2.4K	\$2.6K	\$2.8K
TSA Development	\$1.2M	\$1.1M	\$1.1M	\$1.1M	\$1.1M		
Software Licenses		\$60K	\$60K	\$60K	\$60K	\$60K	\$60K
COTS/GOTS		\$20K	\$40K	\$60K	\$80K	\$20K	\$20K

Hardware						
Maintenance (FSR)	\$850K	\$850K	\$850K	\$850K	\$850K	\$850K

Rationale: Cost to procure and sustain TADSS. Includes cost to develop and maintain the simulation environment for institutional training. Initial Target Signature Array (TSA) resource requirements for EMARSS based on an informal ROM assessment by ICoE proponent rep and PEO STRI (actual resource requirements may vary). During EMD phase engineering and technical exchanges will be required to ensure training device development supports system CTL training. Once system TSA development is initiated, it will primarily affect software engineering and integration. A Commercial "white box" solution will be used as the foundation for EMARSS software training (supporting combined system CTL "knobology" training and comprehensive system application training). This "white box" solution will include all relevant EMARSS collection and payload software and associated dissemination software. The funding for this will be split between the responsible system PMs. PM SAI is expected to fund and develop/integrate those software applications associated with EMARSS specific payloads, sensors and processes. FY13 is estimated at (2) engineers with successive years increased during critical development/integration timelines. Software licenses estimated based on reoccurring license cost of (3) existing applications at (2) AEB locations. Hardware estimated for high powered laptop, (10) per site for software CTL training (\$2k each). Maintenance estimated for (2) maintainers to support training device maintenance and updates for locations, plus travel. Manpower estimate per contract man year equivalent (CME) engineer is \$230k (includes travel); for Maintainer \$200k per year (includes travel).

	Prior	FY15	FY16	FY17	FY18	FY19	FY20
Item Resourced		Yrs or \$K					
Facilities/Land	1						
Facilities							
Classrooms		\$70K	\$72K	\$74K	\$76K	\$78K	\$80K
Land							
Site Surveys							
Concrete Pad							
AC/DC Power							
Equipment							
Maintenance							

Other				

Rationale: Cost to modify existing facilities to accommodate new power and shielding requirements of new system concrete pad and electrical power needed to support the simulation environment.

Item Resourced	Yrs or \$K		Yrs or	Yrs or	Yrs or	FY20 Yrs or \$K
Training Services/TII						
LMS	\$63.6K	\$65.6K	\$67.5K	\$69.6K	\$71.7K	\$73.8K
Services						
Servers	\$75K	\$4K	\$4.1K	\$4.2K	\$4.4K	\$4.5K
Licenses						

IT Support	\$113K	\$115K	\$118K	\$121K	\$124K	\$128K
Other	\$4.1K	\$4.24K	\$4.37K	\$4.5K	\$4.63K	\$4.77K

Rationale: Software license renewal fees and 1 MY for IT support will be required. An inflation rate of 3% was used to factor out years. Note: Servers will not be needed until FY15 and after initial purchase will only need maintenance and ancillary supplies/upgrades.

Item Resourced	Yrs or			Yrs or	Yrs or	FY20 Yrs or \$K
Eval/QA						
Contractor						
Civilian	0.2 MY					
Enlisted	0.2 MY					

Warrant				
Officer				
Contract/Spt				
Civ Pay				
Trvl/Per Diem				
Facilities				
Equipment				
Printing				
TEA				
PFTEA				
Other				

Rationale: Personnel will be required to conduct evaluation/quality assurance of training.

7.0 Operational Training Domain

EMARSS-equipped AEBs must be trained and ready to provide direct support to Brigade Combat Teams (BCT) conducting operations in all phases of Unified Land Operations (ULO). Commanders will use the EMARSS TSS products to train mission essential collective and supporting individual tasks before, during, and after deployment to a theater of operations. USAICOE will support EMARSS operational training through the Global Joint Training Infrastructure (GJTI).

7.1 Operational Training Concept and Strategy

EMARSS training in the operational domain will consist of NET, the Commander's ATP (for all aircrew members), a formal OJT program (for PED operators), and unit collective training. USAICOE will provide support to all operational training product lines through the GJTI on the appropriately classified network to ensure EMARSS unit personnel are ready and able to perform the complex critical individual and collective tasks required for mission success.

NET: PdM MARSS, PdM SEMA, and NSTID will conduct NET/DTT consisting of role-specific programs of instruction to prepare the fielded unit to employ EMARSS capabilities in direct support to tactical operations. At each fielding event, PdM MARSS, PdM SEMA and NSTID will deliver an up-to-date NET TSP in approved TRADOC and DoD formats, sufficient to train a full complement of Soldiers to employ a specific EMARSS variant across the full spectrum of ULO. NSTID will develop and execute DTT as an integral part of the NET POIs. The leave behind NET TSP will include all POIs consisting of lesson plans (LP) with integrated DTT, user's manuals and references (IETMs), TADSS (TSA), and all dL developed for system training. For further details, see paragraph 5.1 - New Equipment Training Concept.

ATP: The ATP is the commander's program for training combat-ready rated and nonrated crewmembers. Aviators enter the ATP upon completion of the SEMA course and PCS to the AEB. The ATP applies to all Army aviators in operational flying positions, Non-rated Crew Members (NCMs) (onboard payload operators), and non-crewmembers that perform crewmember duties per AR 600-106. Other individuals authorized to perform crewmember duties in EMARSS aircraft will comply with Chapter 9 of AR 95-1, all appropriate supplements to AR 95-1, and the EMARSS ATM. EMARSS-equipped units will incorporate material from the NET TSP and the ATM to ensure training covers the entire spectrum from task proficiency at the individual level, to crew proficiency, and finally to unit proficiency in executing mission-essential tasks.

OJT: The fast-paced, tactical nature of the EMARSS mission demands a standardized method for integrating Soldiers into the fight. EMARSS units will establish a formal, mission-specific training program based on the NET TSP to train and sustain incoming and resident Soldiers on the perishable critical individual tasks that support the unit's METL. The OJT program will use the EMARSS TSA scenario-based training vignettes to present Soldiers with a realistic virtual operational environment through the payload control software.

Collective Training: EMARSS units will participate in Mission Training Complex exercises/collective training events through IEWTPT and the federated simulations environment as mission dictates and resources are available. These digital training exercises will provide EMARSS operators and tactical commanders the opportunity to practice employing EMARSS and EMARSS intelligence feeds to prosecute the tactical mission.

7.1.1 Product Lines

EMARSS operational product lines will include the training equipment, courseware, training manuals, TSPs, training facilities, and land necessary to train and sustain Soldiers on EMARSS capabilities and collective tasks. EMARSS operational training will leverage other training capabilities where possible to realize efficiencies for the Army. USAICOE will develop a Combined Arms Training Strategy for AEBs that incorporates EMARSS training.

7.1.1.1 Training Information Infrastructure

Operational EMARSS Training Information Infrastructure (TII) will consist of a DCGS-A constructive simulation architecture, the TRADOC-approved data repository, the Military Intelligence Training System (MITS), and the necessary hardware and software to conduct training. EMARSS TII will conform to both joint and Army architectures and standards to enable the development, storage, retrieval, delivery, and management of Training Support System (TSS) products and information.

7.1.1.1.1 Hardware, Software, and Communications Systems

Units will access training support information and training exercise content using operational equipment including EMARSS aircraft, associated sub-system components, supporting systems, and the Global Information Grid (GIG). Specific equipment and network requirements are documented in paragraph 6.1.1.1.1.

7.1.1.2 Storage, Retrieval, and Delivery

See 6.1.1.1.2.

7.1.1.3 Management Capabilities

The Digital Training Management System (DTMS), ALMS, Army Distributed Learning Program (TADLP), MITS, and TRADOC-approved training databases will manage EMARSS TII.

7.1.1.4 Other Enabling Capabilities

Units must coordinate for aeromedical support and altitude chamber certification to maintain aviator and NCM readiness in support of mission requirements.

7.1.1.2 Training Products

USAICOE will maintain all EMARSS training materials (including DTT) in knowledge centers on appropriately classified networks. PdM MARSS and PdM SEMA will provide updated training materials to USAICOE and fielded units at each system increment. PdM MARSS and PdM SEMA will annotate new or updated training materials to identify new, modified, or deleted content.

Units will incorporate content from the EMARSS NET TSP into the ATP and formal OJT program; USAICOE will ensure unit training is consistent with the Military Intelligence and AEB Combined Arms Training Strategies. Units will select appropriate training materials for individual training programs, mission training plans, and collective training exercises to support the commander's mission.

7.1.1.2.1 Courseware

Units will develop an ATP and formal, role-specific OJT programs from the EMARSS NET TSP. Units will select mission-appropriate interactive courseware and interactive multimedia instruction from the NET TSP and modify as necessary to satisfy the commander's requirements. Units will provide all such modified courseware to ICoE to update the training database or incorporate into web-based instruction.

7.1.1.2.2 Courses

Functional courses:

- Special Electronic Mission Aircraft (SEMA) AQC Aviation Officers (AOC 15) and Fixed-wing Aviation Warrant Officers (155)
- APGO Course on-board SIGINT payload operators (35N, 35P, and 35S)(FY16)
- AGPO Course on-board GEOINT payload operators(35G)
- A-ISR Managers Course EMARSS Mission Managers (35 series Sergeant First Class and above, including Warrant Officers 352N, 352S and 350G)(projected)

The unit's mission may dictate further training requirements such as Survival, Evasion, Resistance, and Escape training, water survival training, or Brigade Combat Training Center courses.

7.1.1.2.3 Training Publications

USAICoE will maintain knowledge centers to host current IETMs, SUMs, and FMs. USAACE will maintain and host ATMs and FTGs.

7.1.1.2.4 TSP

PdM MARSS, PdM SEMA, and the NET Team will use the TRADOC-approved NET TSP to deliver NET and as the leave-behind training package. Commanders will use elements of the NET TSP for unit sustainment training on critical collective tasks and supporting individual critical tasks. For a full description of the NET TSP, see paragraph 5.1 - New Equipment Training.

7.1.1.3 TADSS

EMARSS units will use the IEWTPT, EMARSS TSA, and other unique devices developed for NET and institutional training as the primary TADSS supporting the critical individual and collective tasks trained at home-station. For a full description of EMARSS TADSS, see paragraph 6.1.1.3 - TADSS and supporting sub-paragraphs.

7.1.1.3.1 Training Aids

PdM MARSS and PdM SEMA will resource training aids required for NET and unit sustainment training to include IETMs, SUMs, student handouts, job aids, and role/position checklists.

7.1.1.3.2 Training Devices

PdM MARSS will develop the EMARSS TSA to support individual and collective training. For a detailed description of the EMARSS TSA, see paragraph 6.1.1.3.2 - Training Devices. PdM SEMA will deliver an aircraft systems IMI as Government Off The Shelf (GOTS) equipment to USAICOE; USAICOE will issue copies to all aviators who graduate the EMARSS AQC for sustainment training.

7.1.1.3.3 Simulators

PdM MARSS will provide an EMARSS TSA to be the simulations interface through IEWTPT to the Army family of combined arms simulations. The EMARSS TSA will provide simulated sensor data to the EMARSS payload control software.

7.1.1.3.4 Simulations

The EMARSS TSA will connect to IEWTPT and provide operators with data from realistic scenarios for training. PdM MARSS will leverage existing sensors and activity models to replicate EMARSS in the virtual battle-space of the JLCCTC federation of simulations.

7.1.1.3.5 Instrumentation

USAICOE, PEO STRI, INSCOM, PdM SEMA, and PdM MARSS will assess training instrumentation requirements during system development.

7.1.1.4 Training Facilities and Land

Units will train using existing facilities and land. Unit land requirements will depend heavily on mission operational tempo and supported unit training requirements.

7.1.1.4.1 Ranges

Live EMARSS training will require airspace for training flights and an electronic warfare range.

7.1.1.4.2 Maneuver Training Areas (MTA)

Live EMARSS training will require use of local Maneuver Training Areas to role-play supported units and targets.

7.1.1.4.3 Classrooms

Units will utilize pre-existing classrooms and training areas to conduct operational/sustainment training after the fielding of EMARSS.

7.1.1.4.4 CTCs

PdM MARSS will resource modeling of EMARSS capabilities in the constructive simulation for collective training at CTCs. CTCs will be able to stimulate EMARSS payload control software interfaces with the constructive simulation via the TSA and IEWTPT.

7.1.1.4.5 Logistics Support Areas

EMARSS operational training will not require logistics support areas beyond existing unit facilities.

7.1.1.4.6 Mission Command Training Centers (MCTC)

MTCs will use EMARSS capability models to present Soldiers and leaders with realistic responses to requests for support from EMARSS units before, during, and after simulated combat events.

7.1.1.5 Training Services

PdM MARSS and PdM SEMA will support all EMARSS training capabilities to include updates and sustainment through the end of EMARSS lifecycle.

7.1.1.5.1 Management Support Services

PdM MARSS and PdM SEMA will coordinate operational trainers' access to the information, courseware, requirements, devices, and communication technology management services necessary to conduct robust unit sustainment training with USAICOE, USAACE, or any other proponent body.

7.1.1.5.2 Acquisition Support Services

PdM MARSS and PdM SEMA will maintain and upgrade all system-specific TADSS when fielding product improvements. PdM MARSS and PdM SEMA will coordinate with PEO STRI PM Field Operations to develop and resource the CLS Management Decision Package (MDEP) commonly referred to as WCLS required for TADSS use at home station.

7.1.1.5.3 General Support Services

PdM MARSS and PdM SEMA will develop and distribute any other TADSS required to conduct NET and unit sustainment training.

7.1.2 Architectures and Standards Component

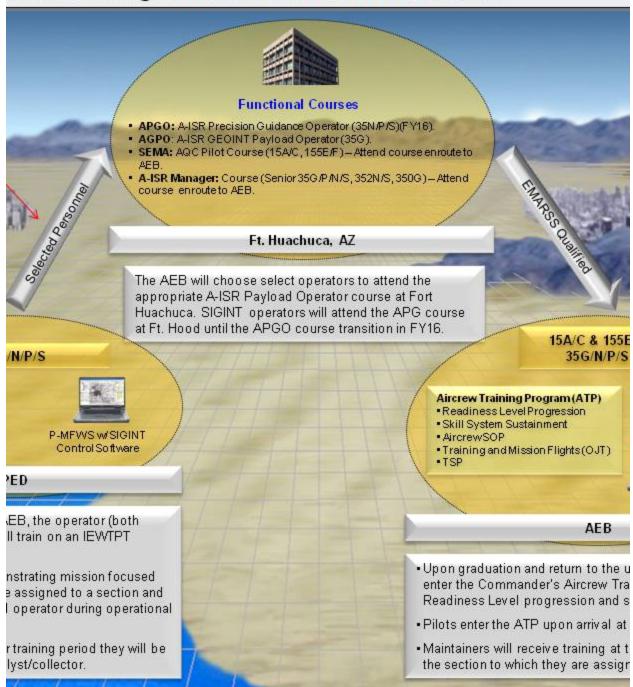
7.1.2.1 Operational View (OV)

EMARSS operational training will consist of NET and sustainment training conducted at the AEB. PdM MARSS and PdM SEMA will provide NET using AEB facilities and the fielded system equipment. Sustainment training will consist of individual and collective training events that support the Commander's training strategy. Individual training will include the formal OJT program, the Commander's ATP, MTT rotations, and situational and field exercises as necessary to support the unit METL and the EMARSS Collective CTL. USAICOE will host any classified dL products in an appropriate dL repository accessible from workstations in the AISR Intelligence Brigade/AEB. The EMARSS TSA will link payload control software interfaces to simulated scenarios to train and sustain operator skills. The Mission Training Complexes (MTC) will support unit collective training events using a combination of entity resolution federated constructive and virtual simulations. AEBs do not deploy on the ARFORGEN cycle, so pre-deployment training will be conducted at the unit. Additional aircrew training requirements may include but are not limited to:

Altitude chamber	Multiple Locations (CONUS/OCONUS)	(Every Five Years)		
Sere 200 Fairchild AFB, WA		(One time requirement)		
Water Survival	Fairchild AFB, WA/Pensacola, FL Ft. Rucker, AL	(One time requirement)		

Flight refresher training	(18 months after initial qualification/ every 24 months therafter

ARSS Training - AIB/AEB and Fort Huachuca, AZ

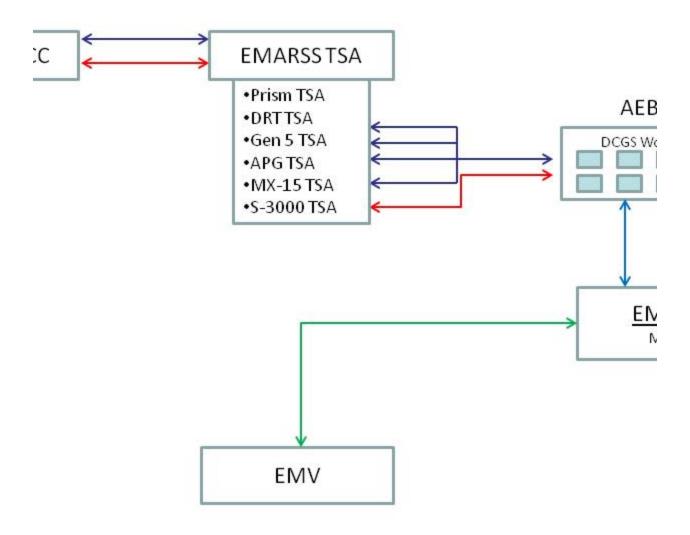


Operational OV

7.1.2.2 Systems View (SV)

Operational EMARSS training will use the fielded system in a mission configuration and the EMARSS TSA connected to the IEWTPT. Unit collective training may feed live, virtual, and constructive simulations at the BCTC or CTCs, while individual training to support collective tasks will access virtual and constructive simulations through the EMARSS TSA. USAICOE will host all training content on appropriately classified learning management, knowledge, and dL repositories for access by unit Soldiers during unit training events.

ARSS - Training SV-1



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Operational SV

7.1.2.3 Technical View (TV)

7.1.3 Management, Evaluation, and Resource (MER) Processes Component

7.1.3.1 Management

7.1.3.1.1 Strategic Planning

USAICOE will design the EMARSS operational training strategy to ensure the total training package meets the requirements set forth in the JDSAISR Initial Capabilities Document, the EMARSS CPD, and the Combined Arms Training Strategy. Commanders will consult the following Army policy and strategic visions when developing unit training plans:

- Intelligence 2020 Strategic plan
- TP 525-8-2 with C1 The United States Army Learning Model (6 June 2011)
- The United States Army Operating Concept 2016-2028 (19 August 2010)

7.1.3.1.2 Concept Development and Experimentation (CD&E)

7.1.3.1.3 Research and Studies

7.1.3.1.4 Policy and Guidance

The following Army Regulations (AR), TRADOC Regulation (TR), TRADOC Publications (TP) and Training Circulars (TC) describe the policies regulating the implementation of the TSS for EMARSS:

- AR 95-1 Flight Regulations
- AR 350-1 Army Training and Leader Development. (18 December 2009)
- AR 350-38 Training Device Policies and Management. (15 October 1993)
- TC 3-04.11 Commander's Aircrew Training Program for Individual, Crew, and Collective Training (19 November 2009)
- TR 350-70 Army Learning Policy and Systems (6 December 2011)
- TP 525-8-2 with C1 The United States Army Learning Model (6 June 2011)
- TP 525-3-1 The United States Army Operating Concept 2016-2028 (19 August 2010)
- FORSCOM Commander's training guidance
- INSCOM Commander's training guidance

7.1.3.1.5 Requirements Generation

- JDSAISR ICD (10 September 2010)
- EMARSS Directed Requirement (October 2010)
- EMARSS Milestone B Acquisition Decision Memorandum (15 November 2010)
- EMARSS CPD (14 July 2014)

7.1.3.1.6 Synchronization

PdM MARSS, PdM SEMA, INSCOM, and USAICOE will synchronization operational training efforts with other training initiatives to maximize the effectiveness of the EMARSS TSS. These synchronization efforts may include:

- Unit Set Fielding
- TADSS distribution plans
- Synchronizing EMARSS training development requirements with DCGS-A training requirements
- Coordinating EMARSS aircrew training requirements with USAACE
- Coordinating home-station training through the appropriate proponent (e.g. INSCOM, FORSCOM, IMCOM)

7.1.3.1.7 Joint Training Support

EMARSS operational training will support joint training as directed by the appropriate proponent authority.

7.1.3.2 Evaluation

7.1.3.2.1 Quality Assurance (QA)

NSTID will use AARs conducted during and at the conclusion of NET/DTT to ensure quality and content of the training satisfies unit requirements.

NSTID will use responses to make immediate modifications and/or supplementations to the NET/DTT if needed. One year after fielding, NSTID will solicit feedback from the unit to determine long term effectiveness of NET/DTT and sustainment training. Feedback will assist USAICOE in correcting training deficiencies and will provide information that may affect the next generation of equipment or product improvements.

7.1.3.2.2 Assessments

NSTID representatives evaluate and validate NET/DTT at fielded units. A NSTID representative monitors NET/DTT, conducts AARs, and recommends changes to the training materials as required. NETT uses STX at the conclusion of training to evaluate student proficiency and provides retraining as required.

7.1.3.2.3 Customer Feedback

Customer feedback plays an important role in improving training development and future training. NSTID develops, distributes, and collects AAR/feedback forms to/from NET/DTT participants. NSTID reviews the forms and provides copies to the PM.

7.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

USAICOE, Commanders, PdM SEMA, and PdM MARSS will use lessons learned and AAR data to support efficient and effective EMARSS operational training by observing unit and individual performance in the operational environment to identify strengths and weaknesses.

The USAICOE lessons learned team and the Center for Army Lessons Learned (CALL) collect and analyze data from a variety of current and historical sources, including Army operations and training events. CALL disseminates this information and other related research materials to Soldiers through a variety of print and electronic media.

Commanders will conduct AARs after training events and deployments to collect feedback to improve operational training. Commanders and unit trainers will use IEWTPT TCC's AAR capability to assess the effectiveness of the training.

7.1.3.3 Resource Processes

PdM MARSS, PdM SEMA, and USAICoE will plan the integrated training investment strategy and submit training support requirements to the appropriate Program Evaluation Group to ensure the EMARSS TSS meets operational training requirements.

Item Resourced	Prior	FY15 Yrs or \$K		Yrs or		Yrs or	FY20 Yrs or \$K
<u>New</u> Equipment Training							
Contractor		4.0 MY	2.0 MY	2.0 MY	2.0 MY	2.0 MY	2.0 MY
Civilian		1.0 MY	1.0 MY	1.0 MY	1.0 MY	1.0 MY	1.0 MY
Enlisted		4.0 MY	2.0 MY	2.0 MY	2.0 MY	2.0 MY	2.0 MY
Officer		0.2 MY	0.2 MY	0.2 MY	0.2 MY	0.2 MY	0.2 MY
Contract/Spt		\$450K	\$630K	\$330K	\$346K	\$362K	\$378K
		\$121.9K	\$80.8K	\$84.9K	\$89.1K	\$93.6K	\$98.2K

Trvl/Per Diem				
Classrooms	\$9.3K			
Equipment	\$31K			
AC/DC Power				
Printing	\$9.3K			
Other				

Rationale: Initial NET training requirement includes the IKPT, and verification and validation of contractor-provided training materials. As the institutional training grows with the EMARSS fieldings, the institutional training will provide the majority of training to support the expanding fleet. The work effort includes training development and evaluation, input/development/updates of requirement documentation pertaining to training, attendance at IPTs, IPRs, TIMs, etc., and verification of technical manuals. Travel/Per Diem amounts represent costs to attend required reviews/meetings mentioned above. Personnel mix requires further analysis to determine the most effective division of work between Soldiers, Civilians, and Contractors. TDY costs for initial year

NET are based on six personnel attending one 7 week NET and four 5 day meetings per year.

Item Resourced	Prior	FY15 Yrs or \$K			Yrs or	Yrs or	FY20 Yrs or \$K
Eval/QA							
Contractor							
Civilian							
Enlisted		0.2 MY	0.2 MY	0.2 MY	0.2 MY	0.2 MY	0.2 MY
Warrant							
Officer							
Contract/Spt							
Civ Pay							

Trvl/Per Diem				
Facilities				
Equipment				
Printing				
TEA				
PFTEA				
Other				

Rationale: Personnel will be required to conduct evaluation/quality assurance of training.

8.0 Self-Development Training Domain

8.1 Self-Development Training Concept and Strategy

Self-development will focus on the use of the TSP. NSTID will host the TSP in an online repository for access by the units in the field. Due to the classification of all EMARSS variations and target information, some training in all domains must be conducted inside a SCIF on classified computers Soldiers must coordinate all self-development activities with the appropriate local authority prior to committing unit resources to unscheduled costs from simulator or simulations run-time. Aviators will use their issued copy of the MC-12S aircraft systems IMI as well as the TSP for self-development. For details on the operational TSS, see paragraph 7 - Operational Training Domain in entirety.

8.1.1 Product Lines

8.1.1.1 Training Information Infrastructure

8.1.1.1.1 Hardware, Software, and Communications Systems

8.1.1.1.2 Storage, Retrieval, and Delivery

8.1.1.1.3 Management Capabilities

8.1.1.1.4 Other Enabling Capabilities

8.1.1.2 Training Products

8.1.1.2.1 Courseware

8.1.1.2.2 Courses

8.1.1.2.3 Training Publications

8.1.1.2.4 Training Support Package (TSP)

See paragraph 7.1.1.2.4

8.1.1.3 Training Aids, Devices, Simulators and Simulations (TADSS)

8.1.1.3.1 Training Aids

8.1.1.3.2 Training Devices

8.1.1.3.3 Simulators

8.1.1.3.4 Simulations

8.1.1.3.5 Instrumentation

8.1.1.4 Training Facilities and Land

8.1.1.4.1 Ranges

8.1.1.4.2 Maneuver Training Areas (MTA)

8.1.1.4.3 Classrooms

8.1.1.4.4 CTCs

8.1.1.4.5 Logistics Support Areas

8.1.1.4.6 Mission Command Training Centers (MCTC)

8.1.1.5 Training Services

8.1.1.5.1 Management Support Services

8.1.1.5.2 Acquisition Support Services

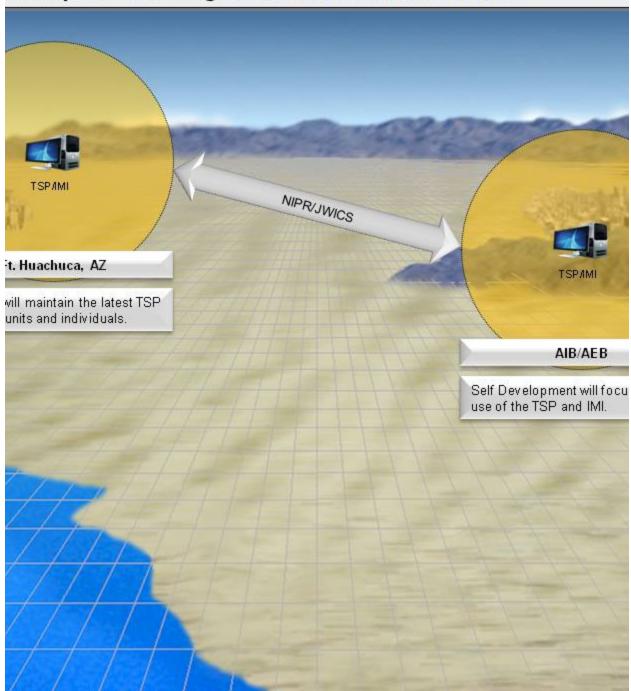
8.1.1.5.3 General Support Services

8.1.2 Architectures and Standards Component

8.1.2.1 Operational View (OV)

EMARSS self-development training will consist of dL products developed for the operational domain.

Development Training - AEB and Fort Huachuca, AZ

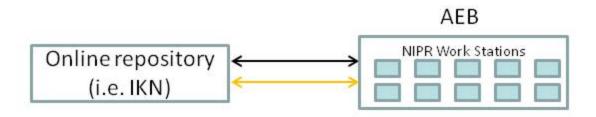


Self Development OV

8.1.2.2 Systems View (SV)

Soldiers will conduct self-development training utilizing the TSP on unclassified workstations and on operational workstations in a SCIF. Soldiers will access training content hosted locally or on repositories available on classified and unclassified networks.

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8.1.2.3 Technical View (TV)

8.1.3 Management, Evaluation, and Resource (MER) Processes Component

8.1.3.1 Management

8.1.3.1.1 Strategic Planning

8.1.3.1.2 Concept Development and Experimentation (CD&E)

8.1.3.1.3 Research and Studies

8.1.3.1.4 Policy and Guidance

8.1.3.1.5 Requirements Generation

8.1.3.1.6 Synchronization

8.1.3.1.7 Joint Training Support

8.1.3.2 Evaluation

8.1.3.2.1 Quality Assurance (QA)

8.1.3.2.2 Assessments

8.1.3.2.3 Customer Feedback

8.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

8.1.3.3 Resource Processes

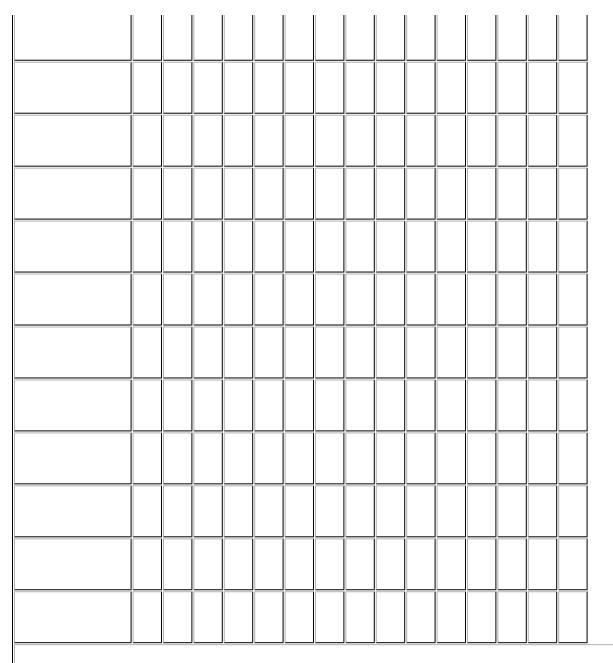
A Milestone Annex

TRAINING DEVELOPMENT MILEST SCHEDULE - SHEET A			ONE	PAGE	1 OF PAGES 1	REQUIR	EMENTS CONTROL SYMBOL	
SYSTEM: Enhanced Medium-Altitude Reconnaissance and Surveillance System (EMARSS)	ACAT :	II	OFF	OFFICE SYMBOL A			E 4 September	
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TRADOC PROPON:	ENT							
			COL Casey Carey		ATZS-CDI	-A	DSN 821-2165	
		CD:						
			SSG Richa Ray	rd	ATZS-CDI	-N	DSN 879-3203	
	A	TSC:						

SUPPORT	ING PROPONENTS:			
ITEM	DATE	RESPONS	SIBLE AGENCY/POC	TELEPHONE
MNS:				
SMMP:				
MRD:				
ILSMP:				
TTSP:	D, 25 Aug 14	SSG Richard Ray	ATZS-CDI-N	DSN 879-3203
QQPRI:				
BOIP:				
NETP:				
JDSAISR ICD	A, 9 Sep 10	Mr. Adam Risner	USAICOE, TCM-IS	DSN 821-1108
CPD		Mr. Lee Isle	USAICOE, TCM-IS	DSN 879-0200
STRAP	A, 16 APR 13	Mr. Michael	USAICOE, NSTID	DSN 879-1747

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COMMENTS:		

TRAINING DEVELOPMENT MILESTONE SCHEDULE - SHEET B					PA	GE I	PAGE	OF S	REQUIREMENTS CONTROL SYMBO							OL
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NOTE: Identify **TRAINING DEVELOPMENT MILESTONES**. TRADOC FORM 569-1-R-E provides a detailed list of typical training development products required to support system training integration.

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B References

- 1. EMARSS Milestone B Acquisition Decision Memorandum, approved 15 November 2010
- 2. JDAISR ICD, approved 10 September 2010
- 3. A-ISR TNA, approved 30 April 2007.
- 4. 305thMI Bn Training Deficiencies Memorandum, dated 7 December 2006.
- 5. DCGS-A STRAP, approved 11 January 2011.
- 6. IEWTPT ORD, approved 23 Jul 2004.
- 7. IEWTPT STRAP, approved 8 December 2010.
- 8. SEMA MI Critical Task List, approved December 2010.
- 9. 35G CTL, approved 28 February 2014.
- 10. 35N CTL, approved 31 January 2014.
- 11. 352N CTL, approved 31 January 2014.
- 12. 35P CTL, approved 3 March 2014.
- 13. 35S CTL, approved 2 May 2014.
- 14. 35T CTL, approved 31 January 2014.
- 15. 353T CTL, approved 31 January 2014.

C Coordination Annex

Organization/POC (Date)	Comn	nary onents		Ac Re	mmer cept ject	ed/ ed		ject	ced	Rationale for Non-Acceptance - S, C
	A S C		A	s	С	A	s	С		
v1.2.3 Richard P Athanas 2014/09/29 - 2014/09/30	Acce	Document Accepted As Written			0	0	0	0	0	-
v1.2.2 Richard P Athanas 2014/09/23 - 2014/09/26		No Comments Submitted				0	0	0	0	-
v1.2.1 Approvals - James A Callahan 2014/09/23 - 2014/09/25	Document Accepted As Written			0	0	0	0	0	0	-
v1.2 Army - USASOC 2014/08/07 - 2014/09/03		Commer		0	0	0	0	0	0	-
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v1.2 Army - USAMA 2014/08/07 - 2014/09/03	No (0	0	0	0	0	0	-		

v1.2 Army - USAACE - Aviation School 2014/08/07 - 2014/09/03	Document Accepted As Written	0	0	0	0	0	0	-
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v1.2 Army - Combined Arms Center 2014/08/07 - 2014/09/03	No Comments Submitted	0	0	0	0	0	0	-

v1.2 Army - CAC-T; Training Management Dir 2014/08/07 - 2014/09/03	2	7	0	1	0	0	1	7	0	
v1.2 Army - Brigade Modernization Cmd (BMC) 2014/08/07 - 2014/09/03	No Comments Submitted			0	0	0	0	0	0	-
v1.2 Army - AVNCoE Aviation Logistics School 2014/08/07 - 2014/09/03	No Comments Submitted			0	0	0	0	0	0	-
v1.2 Army - ATSC TSAID 2014/08/07 - 2014/09/03	No Comments Submitted			0	0	0	0	0	0	-
v1.2 Army - ATSC Fielded Devices 2014/08/07 - 2014/09/03	No Comments Submitted			0	0	0	0	0	0	-
v1.2 Army - ARNG-RMQ-RA 2014/08/07 - 2014/09/03	Document Accepted As Written			0	0	0	0	0	0	-
v1.2 Army - Army National Guard 2014/08/07 - 2014/09/03	No Comments Submitted			0	0	0	0	0	0	-
v1.2 Army - Army Material Command	No Comments			0	0	0	0	0	0	-

(AMC), G3 2014/08/07 - 2014/09/03	Submitted							
v1.2 Army - AMEDD Center & School 2014/08/07 - 2014/09/03	Document Accepted As Written	0	0	0	0	0	0	-
v1.1 Peer - USAACE - Aviation School 2014/04/28 - 2014/05/12	No Comments Submitted	0	0	0	0	0	0	-
v1.1 Peer - CYBER CoE - Signal School 2014/04/28 - 2014/05/12	Document Accepted As Written	0	0	0	0	0	0	-
v1.1 Peer - CYBER CoE - OCOS 2014/04/28 - 2014/05/12	Document Accepted As Written	0	0	0	0	0	0	-
v1.1 Peer - PM ARES 2014/04/28 - 2014/05/12	No Comments Submitted	0	0	0	0	0	0	-
v1.1 Peer - MSCoE - MANSCEN 2014/04/28 - 2014/05/12	Document Accepted As Written	0	0	0	0	0	0	-
v1.1 Peer - MCoE - Infantry & Armor School 2014/04/28 - 2014/05/12	Document Accepted As Written	0	0	0	0	0	0	-
v1.1 Peer - MCCoE, DOT-S 2014/04/28 - 2014/05/12	No Comments Submitted	0	0	0	0	0	0	-

v1.1 Peer - INSCOM Headquarters 2014/04/28 - 2014/05/12	No Comments Submitted	0	0	0	0	0	0	-
v1.1 Peer - ICoE - Mil Intelligence School 2014/04/28 - 2014/05/12	No Comments Submitted	0	0	0	0	0	0	-
v1.1 Peer - AVNCoE Aviation Logistics School 2014/04/28 - 2014/05/12	No Comments Submitted	0	0	0	0	0	0	-
v1.1 Peer - Aerial ISR Systems 2014/04/28 - 2014/05/12	No Comments Submitted	0	0	0	0	0	0	-
v1.1 Peer - 66th MI BDE 2014/04/28 - 2014/05/12	No Comments Submitted	0	0	0	0	0	0	-
v1.1 Peer - 513th MI BDE 2014/04/28 - 2014/05/12	No Comments Submitted	0	0	0	0	0	0	-
v1.1 Peer - 501st Military Intelligence Bde 2014/04/28 - 2014/05/12	No Comments Submitted	0	0	0	0	0	0	-
v1.1 Peer - 500th Military	No Comments	0	0	0	0	0	0	-

Intelligence Bde 2014/04/28 - 2014/05/12	Submitted							
v1.1 Peer - 3D MI BN (AE) 2014/04/28 - 2014/05/12	No Comments Submitted	0	0	0	0	0	0	-
v1.1 Peer - 224th MI BN (AE) 2014/04/28 - 2014/05/12	No Comments Submitted	0	0	0	0	0	0	-
v1.1 Peer - 1st MI BN (AE) 2014/04/28 - 2014/05/12	No Comments Submitted	0	0	0	0	0	0	-
v1.1 Peer - 15th MI BN (AE) 2014/04/28 - 2014/05/12	No Comments Submitted	0	0	0	0	0	0	-

Key

Completed Review with Comments

Completed Review, No Comments

Active Review Occurring



DEPARTMENT OF THE ARMY UNITED STATES ARMY INTELLIGENCE CENTER OF EXCELLENCE 1903 HATFIELD STREET FORT HUACHUCA, ARIZONA 55613-7090

ATZS-DCT

16 September 2014

MEMORANDUM FOR Director, New Systems Training and Integration Directorate (ATZS-CDI-N), 550 Cibeque Street, Ft. Huachuca, AZ 85613-7017

SUBJECT: Approval of System Training Plan (STRAP) for the Enhanced Medium-Altitude Reconnaissance and Surveillance System (EMARSS)

- The EMARSS STRAP is approved. Approved STRAP will be posted to the Central Army Registry (CAR) website: www.adtdl.army.mil.
- 2. Point of contact for this STRAP is Mr. Stephen McFarland, NSTID STRAP Manager (520) 533-5387 (DSN 821), stephen.j.mcfarland.civ@mail.mil.

COL, MI

Deputy Commander, Training